Claims

1. A transgenic plant expressing a cationic peptide selected from the group consisting of:

(a) temporins; and

(b) dermaseptins.

2. A transgenic plant comprising a recombinant nucleic acid molecule, wherein the nucleic acid molecule encodes a peptide selected from the group consisting of:

(a) temporins; and

(b) dermaseptins.

3. A transgenic plant according to claim 2 wherein peptide comprises an amino acid sequence selected from the group consisting of the amino acid sequences set forth in SEQ IDs: 3-14, and 17-26.

4. A transgenic plant according to claim 3 wherein the peptide further comprises an N terminal peptide extension of between 2 and 25 amino acids in length.

5. A transgenic plant according to claim 4 wherein the N terminal peptide extension is selected from the group consisting of AMWK, ASRH, and ALWK.

6. A transgenic plant comprising a recombinant nucleic acid molecule, wherein the nucleic acid molecule encodes a fusion peptide having a formula selected from the group consisting of:

(a) P-D ; and

(b) P-T,

wherein D is a dermaseptin peptide, T is a temporin peptide and P is an anionic pro-region peptide.

7. A transgenic plant comprising a recombinant nucleic acid molecule, wherein the nucleic acid molecule encodes a fusion peptide having a formula selected from the group consisting of:

(a) P-S-D ; and

(b) P-S-T,

wherein D is a dermaseptin peptide, T is a temporin peptide, P is an anionic pro-region peptide and S is a spacer peptide.

8. A transgenic plant comprising a nucleic acid molecule encoding a peptide comprising an amino acid sequence selected from the group consisting of:

(a) SEQ IDs: 3-14 and fragments thereof;

(b) amino acid sequences that differ from an amino acid sequence specified in (a) by one or more conservative amino acid substitutions; and

(c) amino acid sequences that share at least 40% sequence identity with an amino acid sequence specified in (a),

wherein the peptide has dermaseptin biological activity.

9. A transgenic plant according to claim 8 wherein the peptide further comprises an anionic pro-region peptide operably linked to the N-terminus of the peptide.

10. A transgenic plant comprising a nucleic acid molecule encoding a peptide comprising an amino acid sequence selected from the group consisting of:

(a) SEQ IDs: 17-26 and fragments thereof;

(b) amino acid sequences that differ from an amino acid sequence specified in (a) by one or more conservative amino acid substitutions; and

(c) amino acid sequences that share at least 50% sequence identity with an amino acid sequence specified in (a),

wherein the peptide has temporin biological activity.

11. A transgenic plant according to claim 8 wherein the peptide further comprises an anionic pro-region peptide operably linked to the N-terminus of the peptide.

12. A transgenic plant comprising a recombinant nucleic acid molecule encoding a peptide comprising an amino acid sequence selected from the group consisting of SEQ IDs: 28 and 34.

13. A method of producing a biologically active cationic peptide comprising:

providing a transgenic plant according to claim 1; and

isolating at least one biologically active cationic peptide from the plant.